EFFECTIVENESS OF COGNITIVE BEHAVIORAL TECHNIQUES IN REDUCING AUDITORY HALLUCINATION AMONG CLIENTS WITH CHRONIC SCHIZOPHRENIA

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CERTIFICATE

This is to certify that the research work entitled **"EFFECTIVENESS OF COGNITIVE BEHAVIORAL TECHNIQUES IN REDUCING AUDITORY HALLUCINATION AMONG CLIENTS WITH CHRONIC SCHIZOPHRENIA"** was carried out by **Mr. R. DHARMARAJ (Reg.No.41091026), KMCH** College of Occupational Therapy, towards partial fulfilment of the requirements of Master of Occupational Therapy (Advanced OT in Psychiatry) of the Tamilnadu Dr. M.G.R. Medical University, Chennai.

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Guide **Mrs. Sugi.S** MOT (Adv.OT in Pediatrics) KMCH College of Occupational Therapy	Principal **Mrs. Sujata Missal** MSc (OT), PGDR (OT) KMCH College of Occupational Therapy
_____	_____
Internal Examiner	**External Examiner**

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CONTENTS

Abstract

ABSTRACT

AIM:

To find out the effectiveness of cognitive behavioral techniques in reducing auditory hallucinations among clients with chronic schizophrenia

METHOD:

Baseline and outcome measures of auditory hallucination were determined through PSYRATS scale for evaluation of Auditory Hallucination. The subjects were divided in to experimental and control group. The cognitive behavioral techniques were implemented to experimental group through twelve sessions along with medications. The control group only received medications alone during the same period. They were evaluated using PSYRATS scale for evaluation of Auditory Hallucination.

RESULTS:

The experimental group showed reduction in auditory hallucinations after regular cognitive behavioral techniques intervention. But after two week interval period in second post test auditory hallucination was again increased. After reemphasizing again, in third post test there was mild reduction in auditory hallucination, but not as much as in first posttest. The final post test after three month interval period showed again increase in auditory hallucination.

CONCLUSION:

Cognitive behavioral techniques were effective in reducing auditory hallucination and the effect was short lived. When individual based cognitive behavioral techniques were given regularly for chronic schizophrenic patients, it was found to be effective in reducing auditory hallucination.

Introduction

INTRODUCTION

Hallucinations are perceptions experienced in the absence of corresponding sensory stimuli. They are experienced as immediate, vivid and independent of will, and are often felt to be real and can affect any sensory modality. They vary according to sensory modality, degree of complexity of hallucinated experience, perceived location of the hallucination e.g. inside the body or outside the body [Rajani S.kelkar, 2002].

Hallucinations affect a person's ability to engage in work, leisure and self care tasks, but the effects are highly variable and individualistic. For some persons with persistent psychotic illness, hallucinations are directly responsible for profound dysfunction in all aspect of daily life, including an ability to engage in meaningful tasks or relationships. For some persons, Hallucinations are problematic only in certain situations or at specific times, such as when they are alone or in a stressful situation. For others Hallucinations have a positive effect in that the Hallucinations may provide companionship and guidance in an environment that is often isolative and prejudicial toward persons with mental illness [MacRae, 1993].

Auditory Hallucinations [AH] occur frequently among psychiatric patients, being most common in schizophrenia [Shergill SS, Murray RM, McGuire PK, 1998]. Approximately 70% of hallucinations are auditory, 20% of hallucinations are visual and remaining 10% of hallucinations are tactile, gustatory, olfactory etc [Rajani S.kelkar, 2002]. The Command hallucinations are being common in voice hearers and are taken seriously because of the potential threat to self and others. Hearing voices are not only distressing to the sufferers; it also has a serious impact on carers and members of public [Gerlock AA-2010]. The auditory hallucination has an impact to heighten anxiety and depression. High risk of suicide among patients with auditory hallucinations is documented [Carter DM, Mackinnon A, Copolov DL, 1996].

The traditional medical approach for controlling hallucinations is the administration of antipsychotic drugs. However, drugs are only partially successful in controlling

hallucinations, About 20% to 40% of patients continue to experience persistent hallucinations in spite of treatment with psychotropic medications [Rajani S.kelkar, 2002].

Self-initiated (‘natural’) coping strategies appear almost universal among the voice-hearers. Most strategies are reported that at least for some users it’s found to be effective. The therapeutic effect of natural coping strategies for persisting symptoms has demonstrated some efficacy [Farhall J, Greenwood KM, Jackson HJ, 2007]. Self control measures although not always effective, do have a significant role to play in management of psychotic disorders and deserve further study [Rajani S.kelkar, 2002].

Occupational therapists working with clients having psychosocial dysfunctions evaluate the hallucinations as a part of routine assessment and provide a general intervention, do not employ any special intervention strategies for hallucinations [Rajani S.kelkar, 2002].Evaluating hallucination and determining the associated functional deficits and developing appropriate intervention strategies for hallucination is a challenging task for an occupational therapist.

Cognitive behavioral therapy [CBT] originally developed and evaluated with affective disorders, has been used successfully used to treat persistent hallucinations and delusions as an adjunct to medication [Tarrier et al, 1998]. Evidence from literature confirm that CBT is effective in schizophrenic patients who were resistant to medication [Rathod S, Kingdon D, Weiden P, Turkington D, 2008].

Even though the studies proved that cognitive behavioral therapy was effective in voice hearers, mostly it was provided in groups due to its less costly alternative to individual treatment.

It is very important to individualize the treatment techniques and activities because they will only be effective if there is personal significance, an opportunity for enjoyment or satisfaction and the hope of successful completion [Rajani S.kelkar, 2002].

Occupational therapists are well trained and equipped to provide such individual therapy. Thus the current study was initiated with the research question ‘does an individual based, cognitive behavioral therapy program reduce auditory hallucination among clients with chronic schizophrenia?

OPERATIONAL DEFINITION

Schizophrenia

Schizophrenia is characterized by symptoms such as bizarre delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior; inability to initiate and persist in goal directed activity, affective flattening and impervished and disorganized thinking evident in speech and language behavior [American psychiatric association, 2000].

Hallucination

Perceptions with out stimuli.

Auditory Hallucination

Auditory perception experienced in the absence of external stimuli and as if it has arisen from outside the person

Cognitive Behavioral Therapy

Cognitive behavioral therapy is one in which a persons cognitive function is believed to mediate or influence ones affect and behavior.

Aim and objectives

AIM AND OBJECTIVES

AIM

- To find out the effectiveness of cognitive behavioral techniques in reducing auditory hallucination among clients with chronic schizophrenia

OBJECTIVES

- To estimate the presence of auditory hallucination using PSYRATS scale for evaluation of Auditory Hallucination
- To implement the cognitive behavioral techniques to the experimental group
- Find out the effectiveness of cognitive behavioral techniques in reducing auditory hallucinations

Hypothesis

HYPOTHESIS

Cognitive behavioral therapy is effective in reducing auditory hallucination among clients with chronic schizophrenia

Related Literature

RELATED LITERATURE

DEFINITION OF SCHIZOPHRENIA;

Schizophrenia is characterized by symptoms such as bizarre delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior; inability to initiate and persist in goal directed activity, affective flattening and impervished and disorganized thinking evident in speech and language behavior. [American psychiatric association, 2000].

EPIDEMIOLOGY OF SCHIZOPHRENIA;

According to WHO, Schizophrenia is a severe form of mental illness affecting about 7 per thousand of the adult population, mostly in the age group 15-35 years. Even though the incidence is low (i.e.3-10,000), the prevalence is high due to chronicity. Schizophrenia affects about 24 million people worldwide. More than 50% schizophrenic patients are not receiving appropriate care. 90% of untreated schizophrenic patients are in developing countries. As per NIMH, in India 4.3 to 8-7 million people are affected by schizophrenia [a rough estimate based on the population]. Equally common in men and women, but tends to start at a younger age in males, and occur in low socio economic status.

SUBTYPES OF SCHIZOPHRENIA;

According to the ICD-10 (International Classification of Mental and Behavioral Disorders World Health Organization, Geneva, 1992), Schizophrenia classified in to Paranoid Schizophrenia, Catatonic Schizophrenia, Undifferentiated Schizophrenia, Residual Schizophrenia, Hebephrenic Schizophrenia, Simple Schizophrenia, Post Schizophrenic depression. Diagnostic & Statistical Manual of mental disorders, version IV, Text Revision, published in 2000 [DSM - IV (TR)] classifies schizophrenia to have five different types, Paranoid Schizophrenia, Catatonic Schizophrenia, Undifferentiated Schizophrenia, Residual Schizophrenia, Hebephrenic schizophrenia, except: Simple Schizophrenia and Post schizophrenic depression.

DSM-IV-TR CRITERIA FOR SCHIZOPHRENIA;

Characteristic symptoms:

Two (or more) of the following symptoms, each present for a time during a 1-month period (or less, if successfully treated):
Delusions
Hallucinations
Disorganized speech (e.g., frequent derailment or incoherence)
Grossly disorganized or catatonic behavior
Negative symptoms (i.e., affective flattening, alogia, or avolition).
Note: Only one Criterion, is required if delusions are bizarre or hallucinations consist of a voice keeping up a running commentary on the person's behavior or thoughts or two or more voices conversing with each other.

Social and occupational dysfunction:

Since the onset of disturbance, one or more major areas of functioning, such as work, interpersonal relations, or self-care, is markedly below the level achieved before the onset (or when the onset is in childhood or adolescence, failure to achieve expected level of interpersonal, academic, or occupational achievement).

Duration:

The signs of the disturbance persist for at least 6 months. This 6-month duration should include at least 1 month of symptoms (or less, if successfully treated) that meet Criterion A (i.e., active-phase symptoms) & may include periods of prodromal or residual symptoms. During residual or prodromal period, the signs of the disturbance may be manifested by only negative symptoms or two or more symptoms listed in Criterion A present in an attenuated form (e.g., odd beliefs, unusual perceptual experiences).

Schizoaffective and mood disorder exclusion:

Schizoaffective disorder & mood disorder with psychotic features have been ruled out because (1) no major depressive episode, manic episode, or mixed episode has occurred concurrently with the active-phase symptoms or (2) if mood episodes have occurred during active-phase symptoms, their total duration has been brief relative to the duration of the active and residual periods.

Substance and general medical condition exclusion:

The disturbance is unaltered due to the direct physiological effects of a substance (e.g., a drug or a medication) or a general medical condition.

Relationship to a pervasive developmental disorder:

If there is a history of autistic or another pervasive developmental disorder, the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present for at least 1 month (or less, if successfully treated).

AUDITORY HALLUCINATION [AH] IN SCHIZOPHRENIA;

***HALLUCINATION*;**

Hallucination is a perception disorders, Schneider (1959) considered them as a first-order symptom of schizophrenia.

Hallucinations [perceptions without stimuli] are common in schizophrenia and have been reported to occur for all five senses. In which auditory hallucinations are most frequent. Visual hallucinations are also occurring, usually along with Auditory hallucinations .other tactile, gustatory and olfactory types are less common.

AUDITORY HALLUCINATION;

An auditory hallucination may define as an auditory perception experienced in the absence of external stimuli and as if it has arisen from outside the person (Gregory, 1987).

TYPES OF AUDITORY HALLUCINATION;

Most common types of auditory hallucination are,

1. ELEMENTARY HALLUCINATIONS;

Hearing simple sounds, rather than voices.

2. COMPLEX HALLUCINATIONS;

Are occur as spoken phrases, sentences or even dialogue that are classified as,

A. audible thoughts [first person auditory hallucination]

Patients hear their own thoughts spoken out loud as they think them. When patients experience their thoughts as echoed by a voice after they have thought them, it is termed thought echo.

B. Second person auditory hallucinations

Patients hear a voice or voices talking directly to them. It can be persecutory, complimentary or issue commands to the patient [command hallucination].

C. Third person auditory hallucinations;

Patients hear a voice or voices speaking about them, referring to them in a third person. This may take the form of two or more voices arguing or discussing the patient among

themselves; or one or more voices giving running commentary on the patients thoughts or actions.

CAUSES OF AUDITORY HALLUCINATION;

- Reduced neural connectivity
- Inability to distinguish between internally & externally generated sound
- Reduced social conversation, which in turn makes the brain more likely to produce hallucinatory conversations. Restricted social interactions may contribute to AHs.
- Heightened emotional state causes confusion between internal and external speech.
- Hearing loss, mostly in the elderly, is a non-psychiatric disorder that can be a trigger for Ahs
- Focal brain lesions involving the central auditory system have been associated with AHs. Lesions caused by epilepsy, tumors, strokes, and degenerative diseases have all been associated with AHs.
- Auditory hallucinations are linked to temporal lobectomy
- Onset of a right temporal lobe stroke leads to musical hallucinations
- A common drug that is associated with auditory hallucinations are quinine, salicylates, phenytonin, benzodiazepine, triazolam, pentoxifylline, propanol, clomipramine, amphetamine, triazlam, and marijuana. Lysergic acid diethylamide (LSD) and mescaline
- Extreme hunger, thirst, lack of sleep, and lack of oxygen have also been reported to cause AHs.
- Tension, anxiety, and stress seem to make AHs more common and more intense.

TREATMENT OF AUDITORY HALLUCINATIONS;

PHARMACOLOGICAL;

Auditory hallucinations are common, disabling and difficult to treat [Fannon D,Hayward P,Thompson N,Green N,Surguladze S,Wykes T,2009]. Even with the best pharmacological

treatments some may continue to experience voices [Westacott, 1995]. Korczyn [2001], reported that neuroleptic medications that are dopamine and cholinesterase antagonists were effective for treating auditory hallucinations. Side effects due to non-compliance with antipsychotics (Sederer and Centorrino, 1997, p. 173) and it has been estimated that 24–80% of ‘‘severely and persistently mentally ill’’ people in the community do not take psychotropic medication as prescribed (Mulaik, 1992, p. 220). The newer atypical antipsychotic medications (e.g., clozapine, olanzepine, risperidone) appear to have less extra pyramidal symptoms (Gerlach & Peacock, 1995). However, those patients still carry the risk of unwanted effects such as sedation, dysphoria, sexual dysfunction, weight gain, endocrine effects, autonomic and cardiovascular effects, anticholinergic effects, and seizures, as well as extra pyramidal problems (Barnes & McPhillips, 1999). As a result, the patients may be reluctant to accept drug treatments and some may even wish to cease taking medications altogether.

TRANSCRANIAL MAGNETIC STIMULATION;

Low-frequency Transcranial magnetic stimulation over the left temporoparietal cortex has a medium ES action on medication-resistant AH. rTMS is a complementary treatment approach in patients suffering from treatment-resistant AH [Constantin Tranulis; Amir Ali Sepehry; André Galinowski; Emmanuel Stip,2008].

OTHER METHODS;

Operant procedures;

Conditioning use of timeouts for hallucinatory behavior .rewarding changes in behaviors which reduce hallucination.

Distraction techniques;

Using a radio or walkman to distract the person's thoughts away from their hallucinations similarly a person might attempt to distract themselves from voices by reading, doing mental arithmetic or playing mental games.

Counter stimulation techniques;

Use of headphones, reading out loud, humming and gargling.

Anxiety reduction techniques;

Systematic desensitization was used and a reduction in anxiety led to a decrease in hallucinations [Tarrier et al, 1988]

Focusing and reattribution approach;

Teaching people to focus attention on the various features of their hallucinations like loudness or frequency especially the meanings these symptoms hold in people lives, modifying beliefs; for the instance about where the voices coming from.

Stimulations such as structured, meaningful and attention-demanding have positive effects on the hallucinations [Margo et al, 1981].

Cognitive-behavioral treatment (CBT);

Cognitive behavioral treatment (CBT) has been widely used and its effectiveness established with numerous patient populations and problems (Beck, 1993). However, there was limited application of CBT techniques in the treatment of persons with schizophrenia and little research regarding its efficacy with this population. The decline of psychotherapy, pharmacological treatment, the severity of the disorder, or the inadequacies of previous

attempts to understand and manage schizophrenia from a cognitive behavioral framework (Birchwood & Preston, 1991; Goggin, 1993) can all be the cause of neglect.

In psychotherapy, Cognitive behavioral therapy (CBT) is a form, in which the patient is given challenges to certain beliefs they have. Usually conducted on individual basis, also group methods are sometimes helpful. Drugs also prescribed in conjunction with therapy. Cognitive approaches to therapy primarily focused on thoughts, including automatic assumptions, beliefs, plans, and intention. Core idea of the cognitive therapy is patient can be assisted to identify the negative automatic thoughts and underlying dysfunctional attitudes or beliefs that contribute to emotional distress or addictive behavior.

CBT used in schizophrenic patients to improve cognitive distortions, reduce distractibility and correct errors in judgment. Patient might benefit generally have some insight in to the illness. Cognitive-behavioral therapy (CBT) has been proved as an adjunct to antipsychotic medication and remediative approaches such as social skills training in the management of residual symptoms of chronic schizophrenia.

When applying, the occupational therapist uses graded activities as a means to provide progressive challenges and success experiences in order to develop cognitive abilities; to expand the knowledge and strategies that he patient can use to act upon, interact in and gain control of the environment; to increase self knowledge; to problem solve; and to cope with life's challenges.

Review of Literature

REVIEW OF LITERATURE

In 2002,Rajani S.Kalkar done a study on ‘occupational therapy interventions in hallucinations’ and illustrates two case studies, in which the model of functional deficits used in the occupational therapy department at L,T,M.M.C and the general hospital. She provided short term structured activities with minimal frustration, which are enjoyable, rewarding and personal meaning to them and make positive statements about themselves, deep breathing exercises, variety of coping strategies and also the patient had to participated in this as soon as the voices begun. At the end patients felt the hallucinations are not bothersome, when they kept themselves busy and occupied with activities and concludes by focusing on a specific type of symptom, such as hallucinations and determining the associated functional deficits, the therapist may better determine the type of intervention required and the use of model of functional deficits associated with hallucinations provides insight in to the kind of psychopathology experienced by patients and the resulting dysfunctional behaviors.

In 2005 April, Valmaggia LR, Vander Gaag M, Tarrier N, Pijnenborg M, Slooff CJ done a study on ‘Cognitive-behavioral therapy for refractory psychotic symptoms of schizophrenia resistant to atypical antipsychotic medication’, aim is to investigate the effects of cognitive-behavioral therapy on in-patients with treatment-refractory psychotic symptoms. In this study Manualised therapy was compared with supportive counseling a both the interventions were applied by experienced psychologists over 16 sessions of treatment. Therapy fidelity was assessed by two independent raters and the participant’s undergone masked assessment at baseline, after treatment and at 6 months' follow-up. On using Positive and Negative Syndrome Scale and the Psychotic Symptoms Rating Scale, results shows Participants receiving cognitive-behavioral therapy had improved with regard to auditory hallucinations and illness insight at the post-treatment assessment, but these findings were not maintained at follow-up.and concludes Cognitive behavioral therapy showed modest short-term benefits over supportive counseling for treatment-refractory positive symptoms of schizophrenia.

Another study done by Wiedemann G, Klingberg S [2003], 'Psychotherapy of positive symptoms in the treatment of patients with schizophrenia psychosis'. Pharmaco therapeutics appeared as the sole treatment for the patients with schizophrenia, but now new research findings show the efficacy of cognitive-behavioral psychotherapy (CBT) on positive symptoms in chronic psychotic patients.CBT with standard care compared to standard care alone and to other psychosocial interventions plus standard care are. Results showed that CBT in schizophrenia patients has a direct effect on psychotic symptoms such as hallucinations as well as on relapse prevention

Favrod J, Pomini V, Grasset F [2004] published a study on 'Cognitive behavioral therapy for auditory hallucinations resistant to neuroleptic treatment', aim of this study is to test the feasibility and the efficacy of a cognitive and behavior therapy manual for auditory hallucinations with persons suffering from schizophrenia in a French-speaking environment and under natural clinical conditions. 8 patients were under ICD-10 criteria for paranoid schizophrenia, 2 for hebephrenic schizophrenia and 1 for schizoaffective disorder. Reports all were heard voices daily. Patients followed this technique for 3 to 6 months according to their individual rhythms. Participants filled the questionnaires for pre-test, post-test and three months follow-up. The outcomes were the Belief About Voice Questionnaire-Revised and two seven points' scales about frequency of hallucinations and attribution of the source of the voices. Results showed a decrease of voice frequency and improvement in attributing the voices rather to an internal than to an external source.

The study 'Cognitive behavioral therapy group work with voice hearers'[Mcleod T, Morris T, Birchwood M, Dovey A, 2007].Is an small, randomized control trial of cognitive behavioral interventions within a group setting for the treatment of auditory hallucinations. In 20 voice hearers, 10 patients are randomly allocated to an eight-session cognitive behavioral therapy group, and 10 underwent psychiatric treatment as usual and the baseline assessments are taken. Measures of frequency, control, power, and symptoms of distress and anxiety, were recorded on assessment and on completion. The groups achieved reduction in frequency of auditory hallucinations and in the beliefs about the power of the voice. Satisfaction measures showed that the group participants valued the group and benefited from the

structured sessions. It suggests that group cognitive behavioral therapy was helpful in the treatment of auditory hallucinations.

Chadwick P, Sambrooke S, Rasch S, Davies E [2000] published a study on 'Challenging the omnipotence of voices: group cognitive behavior therapy for voices', it examines the impact of group based cognitive behavior therapy (CBT) for drug resistant auditory hallucinations, or voices and assesses treatment effect on beliefs in a voice's omnipotence and control. 22 participants entered one of the five 8-session CBT groups. Measures of omnipotence, process measures, control, and symptoms of anxiety and depression were completed at assessment, and first and last group sessions. The results shown significant reduction in conviction in beliefs about omnipotence and control, there were no affective changes and some participants showed spontaneous changes in behavior. Process measures benefited and valued the participants valued about the group.

In the study 'Early psychological intervention for auditory hallucinations: an exploratory study of young people's voices group' [Newton E, Landau S, Smith P, Monks P, Shergill S, Wykes T. 2005], shown that Twenty to fifty percent of people with a diagnosis of schizophrenia continue to hear voices despite taking neuroleptic medication and auditory hallucinations are mostly amenable to psychological intervention during a 3-year critical period after symptom onset.The Outcome measures were taken at four separate time points. A Significant reduction in auditory hallucinations occurred over the total treatment phase, but not over the waiting period.

The study 'Cognitive therapy for command hallucination' [Trower P, Birchwood M, Meaden A, Byme S, Nelson A, Ross K, 2004], aims to test the efficacy of CTCH in reducing beliefs about the power of voices.38 patients with command hallucinations, with recently complied with serious consequences, were allocated randomly to CTCH or treatment as usual and followed up at 6 months and 12 months. The result shows that Large and significant reductions in compliance behavior were obtained in the cognitive therapy group. The differences were maintained at 12 months' follow-up and conclude the efficacy of cognitive therapy for CTCH.

In 1994, Chadwick P, Birchwood M, had done a study on ‘The omnipotence of voices. A cognitive approach to auditory hallucinations’, it emphasizes the relevance of the cognitive model by detailing the behavioral, cognitive and affective responses to persistent voices in 26 patients, and shown there is highly disparate relationships with voices-fear, reassurance, engagement and resistance-reflect vital differences in beliefs about the voices. They viewed their voices as omnipotent and omniscient. On the beliefs about the voice's meaning and identity, the voices considered as ‘benevolent’ or 'malevolent'. The clients perceived the voices to be malevolent provoked fear and were resisted and those perceived as benevolent were courted.

In 2004,Wiersma D, Jenner JA, Nienhuis FJ, Van de Williage G published a study on ‘Hallucination focused integrative treatment improves quality of life in schizophrenia patients’, they studies the effectiveness of a hallucination focused integrated treatment with cognitive-behavior therapy and coping training among schizophrenia patients suffering from 'hearing voices’, a randomized controlled trial (RCT) with 31 patients in the integrated treatment condition and 32 patients in the routine care condition, quality of life was assessed with the self-report questionnaire of the WHO (Bref), and social role functioning with an interviewer based schedule, at entry and 9 (post-treatment) and 18 months later. Follow-up data reveal a significant improvement of quality of life and in particular in social role functioning in favor of the integrated treatment. Concludes the integrated treatment seems to be effective in reducing overall disability levels and number of patients with serious disabilities

Jenner JA, Nienhuis FJ, Wiersma, Vande Willige G in 2004 done a study on ‘Hallucination focused integrative treatment: a randomized controlled trial’. Clients improvements in psychopathology, subjective burden, and coping with voices after hallucination focused integrative treatment (HIT) were studied in chronic schizophrenic patients with persistent (> 10 years), drug-refractory auditory hallucinations and routine care was compared with HIT pre- and post treatment at a 9-month interval. Independent raters used semi structured interviews to assess burden, symptoms, and coping. Improvements within the group in both

burden and psychopathology were most significant in the experimental group ($p < 0.05$) after treatment. HIT patients showed changes in the applied coping strategies, but it did not reach statistical significance. The results suggested that HIT is a cost-effective practice that positively affects mental state in general, subjective burden, quality of life, and social functioning

The study ‘ "Hitting" voices of schizophrenia patients may lastingly reduce persistent auditory hallucinations and their burden: 18-month outcome of a randomized controlled trial’ [Jenner JA, Nienhuis FJ, Van de Willige G, Wiersma D, 2006] aimed to investigate the outcome of an 18-month randomized controlled trial (RCT) on subjective burden and psychopathology of patients suffering from schizophrenia, compared hallucination-focused integrative treatment (HIT) and routine treatment (RT) in schizophrenia patients who persistently hear voices. Intent-to-treat analysis on 63 patients was performed, who were assessed at baseline, 9, and 18 months. On each of the 3 occasions, the effect of the treatment conditions was tested repeatedly. Results show Patients in the experimental group retained improvements over time. The improvements in hallucinations, distress, and the negative content of voices remained highly significant. Concludes HIT seems to be an effective treatment strategy with long-lasting effects for treatment-refractory voice-hearing patients.

In the study ‘Group treatment of auditory hallucinations; Exploratory study of effectiveness’ [Wykes T,Parr AM,Landau S,1999],aim is to explore the effectiveness of group cognitive-behavioral therapy on insight and symptoms, particularly auditory hallucinations. Twenty-one of DSM-IV diagnosed patients with schizophrenia with treatment-resistant, distressing auditory hallucinations were referred to a group programme consisting of six sessions of cognitive treatment following a strict protocol which emphasized individual power and control as well as coping strategies. Results shows there were significant changes in all three main outcome measures following treatment; those changes were maintained at follow-up and were greater than changes over the waiting-list period. Mainly changes in perceived power and distress as well as increases in the number and effectiveness of the coping strategies concludes Group treatment for auditory hallucinations needs further investigation

but does look promising and may provide a less costly alternative to individual cognitive treatment

In the study ‘Cognitive behaviour therapy with coping training for persistent auditory hallucinations in schizophrenia: a naturalistic follow-up study of the durability of effects’ [Wiersma D, Jenner JA, Van De Willige G, Spakman M, Nienhuis FJ, Cognitive behavior, 2001].The objective of the study is to investigate the durability of positive effects of cognitive behavior therapy (CBT) with coping training on psychotic symptoms and social functioning. Forty schizophrenic patients or related psychotic disorders and refractory auditory hallucinations were given CBT and coping training in an integrated single family treatment programme. In a natural study patients were followed after 2 and 4 years since the start of treatment. Results shows that the treatment improved overall burden of 'hearing voices', with a generalization into daily functioning. Improvements with regard to fear, loss of control, disturbance of thought and interference with thinking were sustained by 60% of the patients while one-third improved further. Complete disappearance of hallucinations occurred in 18% of the patients and concludes CBT with coping training can improve both overall symptomatology and quality of life, even over longer periods of time, but a status of persistent disablement indicates a continuing need for mental health care

Farhall J, Greenwood KM, and Jackson HJ Published ‘coping with hallucinated voices in schizophrenia: a review of self-initiated strategies and therapeutic interventions ‘in 2007. The use of self-initiated coping strategies appears almost universal amongst voice-hearers. For some users only reports most strategies are to be effective, but more sophisticated outcome studies are lacking. Therapeutic enhancement of the natural coping strategies for persisting symptoms has demonstrates some efficacy, but its benefit for voices is unknown.

In 1995 Brazo P, Dollfus, Petit M, done a study on ‘Anti-hallucinatory coping strategies in schizophrenia’, explains despite the effectiveness of antipsychotic drugs in schizophrenia, many patients continue to have persistent positive symptoms like hallucinations. It has provided new interest for coping strategies used by hallucinated patients. Study conducted to explore the existence of such strategies in 50 schizophrenic patients defined by the presence

of hallucinations. A specific questionnaire about coping strategies and a scale for the assessment of positive and negative symptoms were used. Results showed that each patient developed at least one strategy, even rudimentary. Moreover, whenever the type of hallucinations, they developed specific coping strategies, most of the time logically used: they used them as much as they were efficacy. So coping strategies should be taken into account for the clinical management of hallucinated patients. Learning of these strategies through behavioral and cognitive therapy could help patients suffering from resistant hallucinations.

Frederick J, Cotanch P done a exploratory study in the year 1995 on ’Self-help techniques for auditory hallucinations in schizophrenia’, describes even with the best treatment available in the United States, people with schizophrenia often remain troubled by auditory hallucinations. A convenience sample of 33 adult outpatients with schizophrenia at a community mental health clinic were interviewed to elicit what (if any) self-help strategies they used for coping with auditory hallucinations. Men used isolative techniques, and women used more interpersonal techniques to cope with their auditory hallucinations. Participants who heard hostile "voices" (both men and women) tended to use substances such as alcohol and prescribed medications. The results may be used to increase understanding of socially appropriate self-help coping strategies in patients with schizophrenia who experience auditory hallucinations.

In 2008, Lindsay C. Emmerson, Eric Granholm, Peter C. Link, John R. McQuaid, Dilip V. Jeste**,** Published a study on ‘insight and social outcome with cognitive behavioral social skill training for older people with schizophrenia and explains poor insight [awareness of having a mental illness that requires treatment] is common in schizophrenia and typically predicts poor outcome, including hopelessness. people with high insight, especially those who believed they have an illness that require treatment, had better everyday functioning in cognitive behavioral social skill training than in treatment as usual and suggests that people with higher insight might benefit the most in cognitive behavioral social skill training than in treatment as usual, but no evidence was found to show that people with low insight should be excluded from cognitive behavioral social skill training.

Marry Ann Bruce in her book ‘frame of reference for psychosocial occupational therapy’ suggested that ,when the person knows the reason for and beliefs of treatment ,he is more inclined to try new experiences or is more motivated to learn, provided the benefits are compatible with his needs and interests. Insight also increases his ability in self control.

In 2006, Maher BA did a study on ‘the relationship between delusions and hallucinations’ and he states that the hallucinations and delusions co-occur which was consistent with the findings that repeated anomalous experiences of various kinds are subsequently followed by delusions, and it can be regarded that hallucinations play a causative role in the development of delusion.

The study ‘Benevolent voices are not so kind: the functional significance of auditory hallucinations’ [Favrod J, Grasset F, Spreng S, Grossenbacher B, Hode Y, 2004], measures the impact of beliefs about auditory hallucinations on social functioning. Twenty-nine subjects meeting the ICD-10 criteria for schizophrenia or a schizo-affective disorder were included. Beliefs about voices and coping responses was measured by Beliefs about Voices Questionnaire were compared with social functioning as assessed with the Life Skills Profile (LSP).The results shows that the belief that voices are benevolent was associated with poor communication. Engagement with voices correlated with the non-turbulence and the compliance factors of the LSP. Patients who believed that their voices were benevolent, may functioned significantly more poorly on the communication factor of the LSP than patients who interpreted their voices as malevolent and concludes there is an positive relationship with voices may affect social functioning

Fanon D, Hayward P, Thompson N, Green N, Surgulade S, Wykes T [2009] published a study on ‘The self or the voice? Relative contributions of self-esteem and voice appraisal in persistent auditory hallucinations’, explains Persistent auditory hallucinations are common, disabling and difficult to treat and low self-esteem is thought to play a causal and maintaining role in a range of clinical disorders, particularly depression, which is prevalent and disabling in schizophrenia. Beliefs about 82 patients with persistent auditory

hallucinations were investigated in a cross-sectional design. Standardized measures were used to assess self-esteem and depression. Low self-esteem is of prime importance to the understanding of affective disturbance in voice hearers. Therapeutic interventions addressed both the appraisal of self and hallucinations in schizophrenia. Measures which eliminate low self-esteem can be expected to improve depressed mood in this patient group.

One cross sectional study titled 'Correlates of self-harm behavior in acutely ill patients with schizophrenia' done by Simms J, Mccormack V, Andeerson R, Mulholland C [2007] compared patients who were acutely ill with schizophrenia with a history of self-harm (N=17) to those without a history of self-harm (N=16) on measures of depression, hopelessness, suicidal ideation, and demographic and psychiatric variables. A group of these patients who experience auditory hallucinations, with and without a history of self-harm, were selected and compared on measures of depression, hopelessness, suicidal ideation and beliefs about voices. Patients with self-harm history (N=17) had significantly greater symptoms of depression, greater suicidal thoughts, increased number of hospital admissions, greater duration of illness and were more likely to be married, compared to patients without a history of self-harm (N=16). Patients who experience auditory hallucinations, with a history of self-harm (N=9), believed their voice to be more malevolent, had a tendency to resist their voice and experienced significantly greater symptoms of depression and hopelessness compared to those without a history of self-harm (N=6).

Conceptual Framework

CONCEPTUAL FRAME WORK

Auditory hallucinations have traditionally have been associated with schizophrenia [Salvador Parona Gercelan, 2004]. There are numerous studies which show that the auditory hallucinations are common in schizophrenia [about 70% than other type of hallucinations].In which the command auditory hallucinations are potential threat to self and others [Gerlock et.al, 2010].

Most investigators on verbal auditory hallucinations explain such phenomenon supposing that these are internal cognitive events that are misattributed to an external source [Hoffman, 1986, Slade & Bentall, 1988; Frith, 1992; David, 1994; Morrison, Haddock & Tarrier, 1995]

Cognitive behavior therapy has more effective in controlling the persistent auditory hallucinations. Group cognitive behavioral treatments are less costly alternative to individual cognitive treatment [Wykes Y, Parr AM, Landau S, 1999].

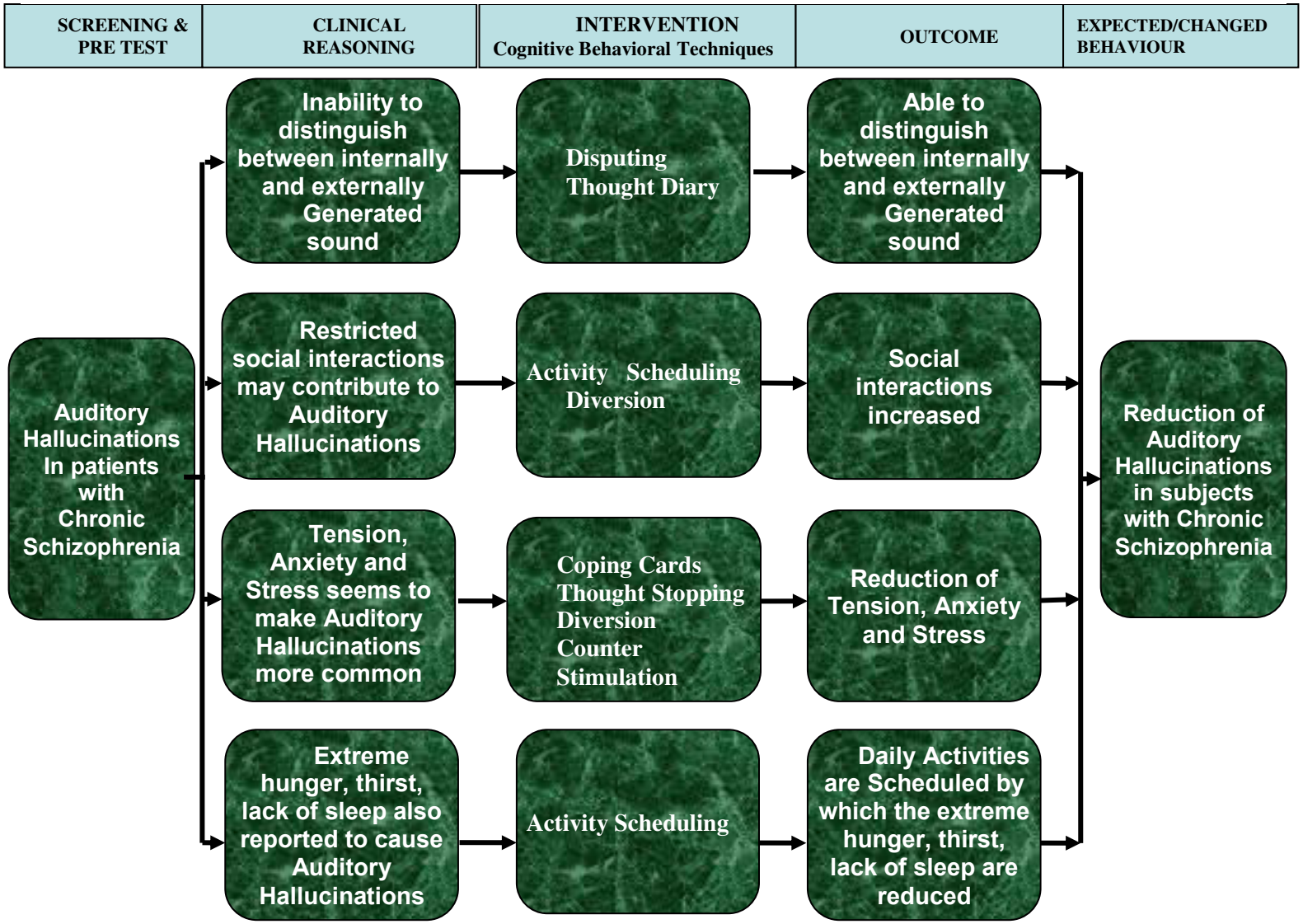
There is less number of studies on individual based treatment. Occupational therapists often minimize the importance of symptomatology and provide general intervention for the patient [Rajani S. Kalkar, 2002].

Hallucination focused integrative treatment seems to be an effective treatment strategy with long lasting effects for treatment refractory voice hearing patients [Jenner JA,Van de willige G, Wiersma D,2006;2004]. The integrated treatment seems to be efficient in reducing overall disability levels and number of patients with serious disabilities and improves quality of life in schizophrenia [Wiersma D, Jenner JA, Nienhuis FJ, Van de willige G, 2004]

As a result efforts have been made to provide,

- Individual tailor made program for each one
- Enhance the coping strategies
- The intervention to reduce the persistent auditory hallucination in patients with chronic schizophrenia.

CONCEPTUAL FRAMEWORK



Methodology

METHODOLOGY

The study was conducted to find out the effectiveness of cognitive behavioral techniques in reducing auditory hallucination among clients with chronic schizophrenia

PLACE OF THE STUDY

- KMCH occupational therapy department, Coimbatore,
- Udhayam, Kongunadu Mananala Arakkatalai, Mananalakappagam, Maruvalvu & Araichi maiyam, k. vadamadurai, Coimbatore

VARIABLES

Independent Variable

- Cognitive behavioral techniques

Dependent Variable

- Auditory hallucination

EXTRENOUS VARIABLES

- Self initiated coping mechanisms, medications

SELECTION CRITERIA

INCLUTION CRITERIA

- Both males and females
- Patients diagnosed as schizophrenia by the psychiatrist
- patients with persistent auditory hallucination in spite of pharmacological intervention

EXCLUTION CRITERIA

- Subjects who are practiced in any others types of experimental studies
- Patients with auditory hallucination but not diagnosed as schizophrenia

SAMPLING

- Convenient sampling

TOOLS USED

PSYRATS scale for evaluation of Auditory Hallucination

Haddock, McCarron, Tarrier and Faragher created this scale as an adequate instrument to measure the dimensions of hallucinations in an easy and understandable way to administer. It is an 11 item scale, each one of which is scored with ordinal numbers [from 0 to 4]. This instrument evaluates the clinical characteristics of auditory hallucinations most adequately.

It has a test retest reliability r = .99 and Interrater reliability was greater than 0.8 [which is normally considered as optimal]. Concurrent validity of the scale was studied using the global scores of the Krawiecka scale and the PSYRATS, the correlation coefficient [spearman] between both is 0.51 [significance 0.0001]

PROCEDURE;

- Informed consent was taken; official letters were sent and approved from the concerned authority.
- PSYRATS scale for evaluation of Auditory Hallucination was administered to chronic schizophrenic patients
- Patients with Auditory Hallucination was taken
- Cognitive behavioral techniques like thought diary, thought stopping, coping cards, disputing, activity scheduling, diversion, counter stimulation was implemented through

- ✓ 12 sessions [each session on one hour duration]
- ✓ twice a week [three and four days interval between each sessions]
- ✓ over a period of 6 weeks to the experimental group,

- PSYRATS scale for evaluation of Auditory Hallucination was used to estimate the presence of auditory hallucination for both groups for post test
- The second and third post assessment tests were conducted to experimental group in a two week interval period after first post assessment test.
- The fourth post assessment test was taken after two months from the third post assessment test
- The pre and post test scores was compared for both groups to find out the effectiveness.

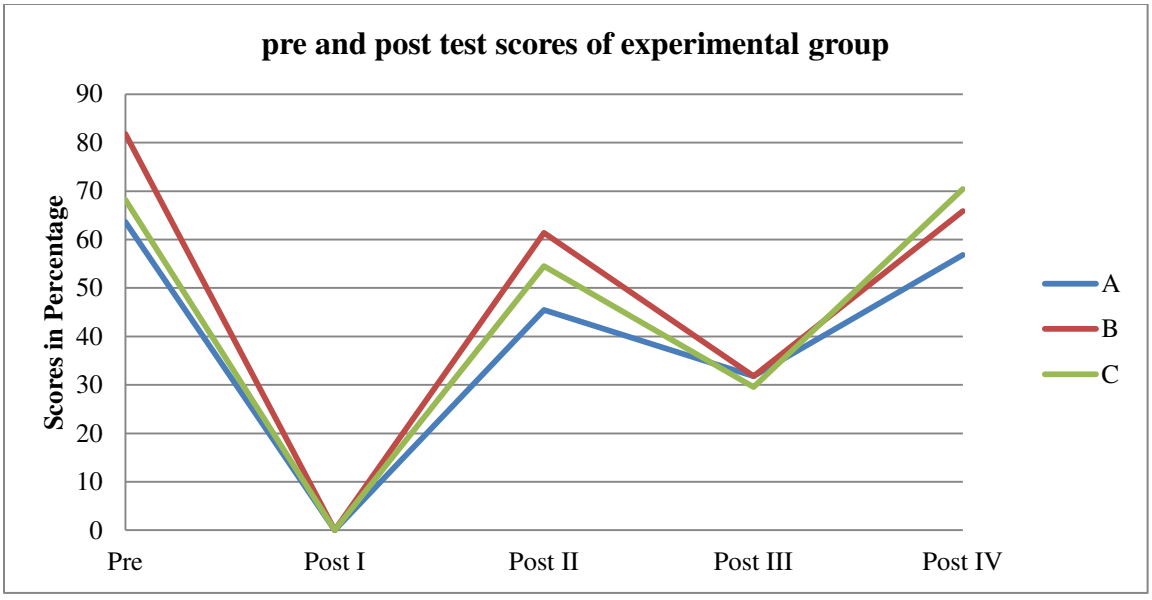
Data Analysis & Results

DATA ANALYSIS AND RESULTS

TABLE I

Comparison of pre and post test [I, II, III, IV] scores of PSYRATS scale for evaluation of Auditory Hallucination in experimental group;

	Pre test-%	Post test I-%	Post test II-%	Posttest III-%	Post test IV-%
A	63.63	0	45.45	31.81	56.81
B	81.81	0	61.36	31.81	65.9
C	68.18	0	54.54	29.54	70.45



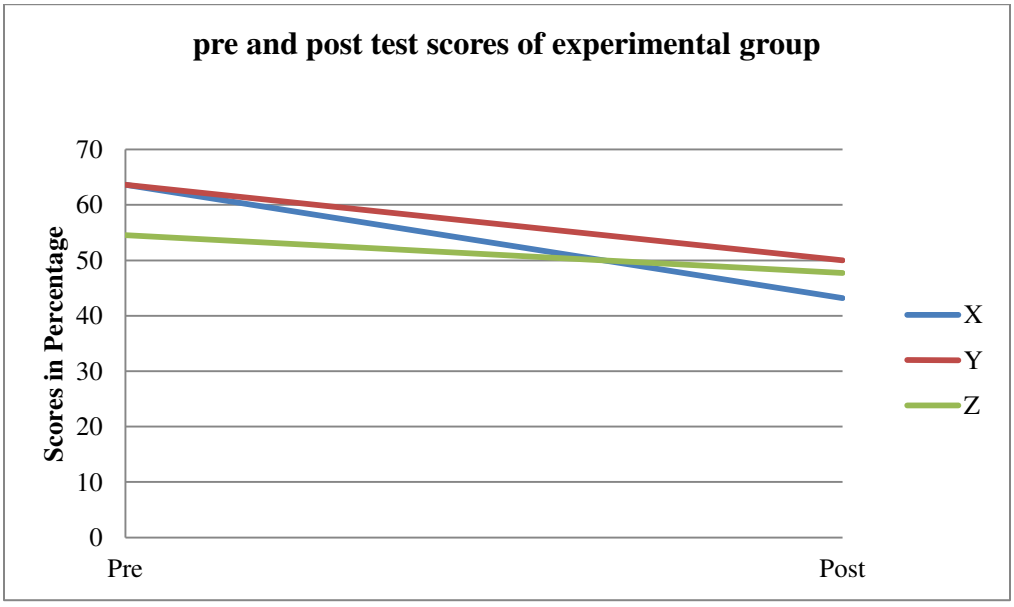
The percentage levels of pre and post test I, shows that there is a marked reduction in auditory hallucination. But in post test II shows again increase in auditory hallucination. After reemphasized again, there is mild reduction in auditory hallucination, but not as much as in the

first post assessment. The final post assessment IV had shown again increase in auditory hallucination.

TABLE II

Comparison of pre and post test scores of PSYRATS scale for evaluation of Auditory Hallucination in control group;

	Pre test-%	Post test -%
A	63.63	43.18
B	63.63	50
C	54.54	47.72

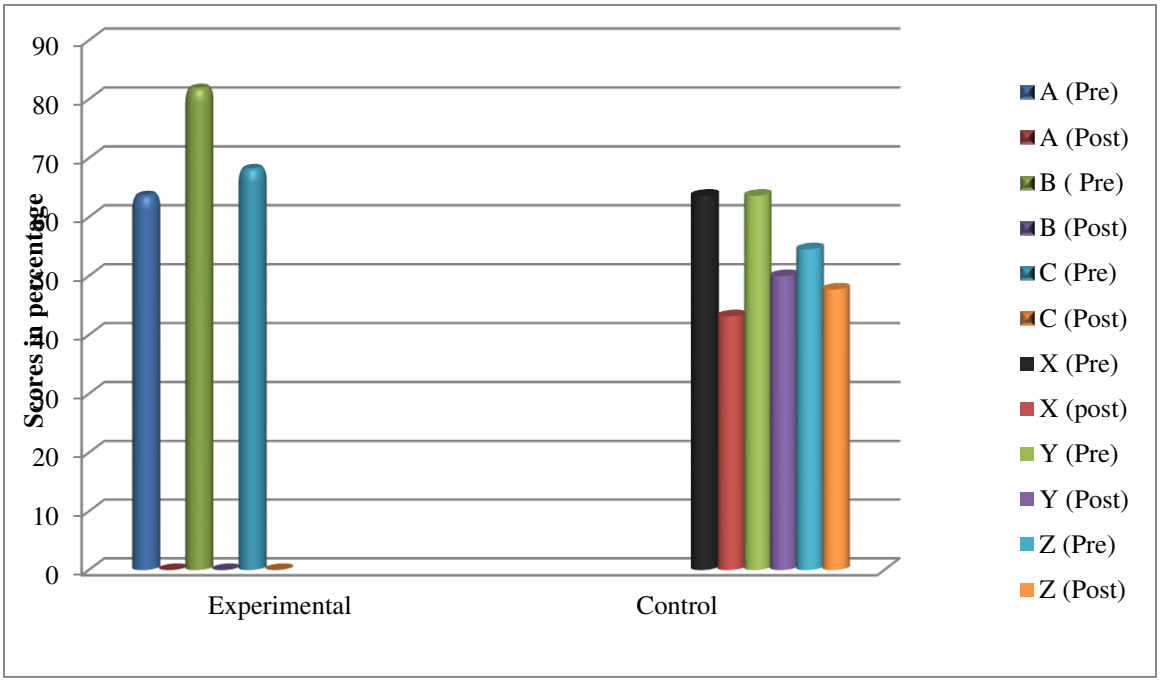


The percentage levels of pre and post test scores of control group shows there is only mild reduction in auditory hallucination.

TABLE III

Comparison of pre and post test I scores of Experimental Group and Comparison of pre and post test scores of control group in PSYRATS scale for evaluation of Auditory Hallucination;

	Experimental Group			Control Group	
	Pre test %	**Post test I %**		**Pre test %**	**Post test %**
A	63.63	0	**X**	63.63	43.18
B	81.81	0	**Y**	63.63	50
C	68.18	0	**Z**	54.54	47.72



The percentage levels of pre and post test I scores of experimental group, shows that there is a marked reduction in auditory hallucination. But the percentage levels of pre and post test scores of control group shows there is only mild reduction in auditory hallucination. It indicates that experimental group had marked reduction auditory hallucination after the regular

intervention, conforming the effectiveness of cognitive behavioral techniques in clients with chronic schizophrenia.

Discussion

DISCUSSION

The study was conducted in Coimbatore from October 2009 to January 2010.Samples were selected from two centers in Coimbatore, according to the selection criteria mentioned in methodology. They were divided into control and experimental group. There were three subjects in each group. The experimental group underwent the cognitive behavioral therapy for reducing the persistent auditory hallucination along with pharmacological treatment, which was planned and implemented by the investigator, while the control group received only the pharmacological treatment. Cognitive behavioral techniques were implemented through 12 sessions, twice a week, over a period of 6 weeks to the experimental group. PSYRATS scale for evaluation of Auditory Hallucination was administered prior and after the intervention for both the subjects of experimental and control group. The data was subjected to calculation by percentage between the pre and post test scores of control and experimental group to determine the effectiveness of occupational therapy intervention.

After the occupational therapy intervention, individual tailor made tasks on a regular basis for about six weeks, the patients in a experimental group reports that the voices are completely reduced and their controlling capacity on the voices are more increased.

Table 1 explains the effectiveness of occupational therapy intervention in the form of cognitive behavioral techniques for experimental group in reducing the auditory hallucination.

But in the table I, the effects are sustained only in the first post assessment but on second post assessment in two week interval period, the patient's reports auditory hallucination again. After reemphasizing the techniques on that day, the third post assessment was taken after the two week interval period, in this the patients reports marked reduction in auditory hallucination but not like in first post assessment .Two months latter, the fourth post assessment was taken, the patients again reports that marked increase in auditory hallucination as like in pre test.

Table 2 compares the pre and post test scores of control group in table 2; it indicates there is a reduction in the auditory hallucination, but not as much as like in experimental group.

Table 3 compares the pre and post test I scores of experimental group and pre and post test scores of control group. It indicates that there is marked reduction in auditory hallucination after the regular intervention, but in control group there is only mild reduction in auditory hallucination.

A research on cognitive therapy for command hallucination showed large and significant reductions in compliance behavior favoring the cognitive therapy and the authors also report that this difference were maintained at twelve months follow up [Trower P, Birchwood M,Meaden A, Byme S, Nelson A, Ross K, 2004]

Two other studies agreed with the effectiveness of cognitive behavioral therapy in reducing auditory hallucinations, but disagree with the lasting effect of cognitive behavioral therapy. Both study results indicate reduction in auditory hallucinations over the total treatment period but not over the follow up [Valmaggia LR, Vander Gaag M, Tarrier N, Pijnenborg M, Slooff CJ, 2005 and Newton E, Landau S, Smith P, Monks P, Shergill S, Wykes T, 2005].The current study results also correlates with the later two studies, by showing reduction in hallucination at post test I but it was not maintained at post test II, III, IV.

In this current study the cognitive behavioral techniques and distraction or counter stimulation activities were chosen by patient with the guidance and encouragement by the therapist. But it was also noted that the subjects did not follow the techniques after the therapist's support ceased. This clearly indicates that the subjects with auditory hallucination require constant guidance and support from therapist before they master and regularize the techniques.

A study published from Harvard university in the tear 2006,reports that 'it would be reasonable to regard the hallucinations as exercising a causative role in the development of delusions'[Maher BA, 2006].This leads to the understanding that delusions also should be considered while treating hallucinations .in this study delusions were not addressed.

It is also said that people with higher insight might benefit the most in cognitive behavior therapy [social skill training] than treatment as usual. But the authors also say that no evidence was found to show that people with low insight should be excluded from cognitive behavior therapy [Lindsay C. Emmerson, Eric Granholm, Peter C. Link, John R. McQuaid, Dilip V. Jeste**].**

The text frame of reference in psychosocial occupational therapy k reports that when the person knows the reason for the belief of treatment, he is more inclined to try new experiences or is more motivated to learn, provided the benefits are compatible with his needs and interests. Insight also increases his ability in self control.

In this study all this three subjects had insight level 4 [they know that something unknown is happening but not very sure what it is].this could have lead to poor understanding of disputing, difficulty in differentiating voices from feeling. This in turn may lead to poor compliance to therapy. This calls attention for further longitudinal study with therapist guidance for longer duration while considering delusions and insight of subjects. Further the sample size was too small to generalize the results and hence a study with larger sample size is recommended.

A 39 year old male patient **'A'** diagnosed as paranoid schizophrenia, falls in class III of the classification of model of functional deficits associated with hallucination. Patient had studied up to BA and belongs to the middle socio economic background. He worked as an assistant accountant in a private office; currently he is unemployed and residing in a home for patients with mental illness for the last two years. He is receiving antipsychotic medications from the psychiatrist who is visiting the home regularly. 'A' has been suffering from persistent auditory hallucination for last ten years. He reported that the unknown voices are using some abusive words and telling him that, "you are a bad and stupid person", "How are you going to survive at home after discharge", and also the voices discussing with themselves about the same. He also complained of hearing bell ringing and bird singing sounds occasionally. He had the habit of just lying in his bed and listening to them. Initially, he tried to stop the unknown voices by closing his ear tightly. He also reported that while sleeping he does not hear any of those voices or sounds. Most of the time he used to just lie on the bed; withdrawn from others.

Session 1 began with the introduction, initiation of rapport building, pre-assessment, and introduction of the therapy procedure. During the second session the interests and skills of the patients were explored using the interest checklist and he was found to have an affinity towards watching TV, playing caroms, reading newspaper and listening to music. Then the **thought diary *(*ABC model*)*** was taught. The third session began with the review of thought diary. **Activity Scheduling** coupled with diversional activities of his interest (those activities which were identified in the second session) was introduced. **Thought stopping** was employed by the therapist during the session. When the patient was exhibiting hallucinatory behavior the therapist banged the bed on which the patient is sitting. This technique was followed during the following sessions whenever he exhibited such behavior. The fourth session began by reviewing the thought diary. The scheduling was reviewed and compliance was highlighted and appreciated. The correlation between keeping himself occupied and the reduction of hallucinations was highlighted. The patient was also taught to differentiate voice and feeling through **disputing**. During session five the thought diary was reviewed and Mr. A had used listening to music as a distraction while alone in bed to avoid hallucination and was appreciated. But he had encountered inability to control his hallucinations while in the toilet. Reading the newspaper loudly while in the toilet was suggested. The therapist prepared the coping cards from the thought diary. Disputing through verbal challenging was facilitated. The sixth session started with review of thought diary. He had been able to control his hallucinations to a great extent. He had also practiced the loud newspaper reading technique which was appreciated. He had experienced hallucination when he was having tea alone which he could not counter for which he was advised to have tea with the other residents. **Counter stimulation** techniques like singing, listening to songs over the headphone and gargling were taught. Session seven started with reviewing the thought diary. The client had had tea with the other residents which had helped. He had also used the singing songs while bathing as a counter stimulation. He was appreciated and encouraged to keep following the techniques taught. Diversion (read and write important topics that he likes from books or newspapers, chatting with the other residents, listening to songs, watching TV, playing caroms, etc) and home making tasks (keeping the bed clean, arranging the shelf, etc) were taught and the efficacy of **distraction** in negating hallucinations was explained using examples from his thought diary (reading newspaper in the toilet and listening to music while in bed). Coping cards were prepared. Session eight was started with thought diary review

and he had not experienced any hallucination which was appreciated and he was encouraged to follow the techniques that he had effectively learnt to use. He was encouraged to participate in the Arica nut bark plate making which was a regular activity in the home. Coping cards was prepared. During session nine the review showed that he was continuing the activities and was not experiencing any hallucination which was appreciated. The **coping cards** were introduced to the client and motivated to use it. Session ten again demonstrated the clients' ability to control his hallucinations through the techniques taught. He had used the coping card as a daily reminder on how to continue his daily living without hallucinations. This was appreciated and encouraged. Session eleven was aimed at assurance for independence, as a systematic withdrawal of the therapists' guidance and support.

'B' is a 22 years old male diagnosed as paranoid schizophrenia. He falls in class v of the classification of model of functional deficits associated with hallucination. Patient has studied up to sixth standard, belongs to middle class background. The symptoms started eight years ago. Patient received many magico religious and psychiatric treatments in various hospitals. Currently he is residing in a residential institution catering to the needs of patients with mental illness for about fifteen months. He is receiving antipsychotic medications from the psychiatrist, who visits the institution regularly but still the symptoms persist. 'B' has been suffering from persistent auditory hallucination for about six years. 'B' reported that the unknown voices were using abusive words and reproached him on his sexual matters and also commanded him "don't talk to him" and "don't sit there". He also complained that the voice sometimes called him by his name. When hearing voices he responded back to them and laughed and muttered to self when he was alone. He felt the voices were real and was unable to control hence he had started to listen to it. He reports that while sleeping the voices was absent. He was withdrawn, poorly motivated and was not interacting socially with others.

Session 1 began with the introduction, initiation of rapport building, pre-assessment, and introduction of the therapy procedure. 'B' was uncooperative and rapport building was difficult. During the second session the interests and skills of the client was identified by administering the interest checklist and he was found to have an interest in playing caroms, watching TV and listening to songs which were used to facilitate interaction and eventually rapport was built. Then the **thought diary (ABC Model)** was taught. The third session began with the review of thought

diary. **Activity Scheduling** coupled with diversional activities of his interest (those activities which were identified in the second session) was introduced. **Thought stopping** was employed by the therapist during the session. When the patient was exhibiting hallucinatory behavior the therapist banged the bed on which the patient is sitting. This technique was followed during the following sessions whenever he exhibited such behavior. The fourth session began by reviewing the thought diary. The scheduling was reviewed and compliance was highlighted and appreciated. The correlation between keeping himself occupied and the reduction of hallucinations was also highlighted. The patient was also taught to differentiate voice and feeling through **disputing**. During session five the thought diary was reviewed. Mr. B had tried to differentiate between voice and feelings using the disputing technique taught to him during the previous session, he was able to eliminate the voice during the day time but reported that he had difficulty during the night time when he was in bed just before sleeping. The therapist suggested listening to his favorite songs through the headphones during bed time. The therapist prepared the coping cards from the thought diary. The sixth session started with review of thought diary. He had been able to control his hallucinations better than the previous session. He had also listened to his favorite songs through the headphones while in bed which was helpful in reducing the hallucination and he was appreciated. He reported hallucinations when he was going for the evening walk which he could not counter for which he was advised to chat with the other residents who also came along with him for the walk. **Counter stimulation** techniques like singing, listening to songs over the headphone and gargling were taught. Session seven started with reviewing the thought diary. The client had talked to the other inmates which had reduced his hallucinations and was appreciated and encouraged. Diversion (write positive statement about himself, visiting the garden, walking, listening to songs in the radio, arranging and stapling the newspaper together) and home making tasks (keeping the bed clean, arranging the shelf, etc) were taught and the efficacy of **distraction** in negating hallucinations was explained using examples from his thought diary (listening to songs on the headphone while in bed and chatting with the other residents while walking). Coping cards were prepared. Session eight was started with thought diary review. The client had reported that he spent most of his daytime being unoccupied during which he has constant hallucinations for which he was encouraged to participate in the Arica nut bark plate making along with Mr. A. Coping cards was prepared. During session nine the review showed that he was not experiencing any hallucination as he was going regularly for the plate making which was appreciated. The **coping cards** were introduced

to the client and motivated to use it. Session ten thought diary review showed that he was able to continue without any hallucinations. He had used the coping card which was appreciated and encouraged. Session eleven was aimed at assurance for independence, as a systematic withdrawal of the therapists' guidance and support.

A 48 years old male patient **'C '**was diagnosed as chronic schizophrenia [paranoid type]. He falls in class v of the classification of model of functional deficits associated with hallucination. 'C' is uneducated, came from middle class socio economic background. Currently he was unemployed and had been residing in a home for patients with mental illness for last ten years, receiving antipsychotic medications from the psychiatrist who is visiting the home were the patient resides. 'C' was suffering from persistent auditory hallucination for last ten years. Reported the voices were telling him that he was a wrong person and "don't join with others" and also shouted at him. Patient also complained that he heard the dialogues of old films. Initially 'C' was withdrawn and lay on his bed always, not motivated in doing activities and poorly maintained self care activities. He muttered, laughed and responded back to the unknown voices. He felt that the voices were real and was unable to control that. He often got frustrated when the voices were scolding him.

Session 1 began with the introduction, initiation of rapport building, pre-assessment, and introduction of the therapy procedure. During the second session the interests and skills of the client was identified by administering the interest checklist. He showed interest in gardening and rest of the time he is occupied with watching TV, listening to songs and group play activities.. Then the **thought diary (ABC Model)** was taught. The third session began with the review of thought diary. **Activity Scheduling** coupled with diversional activities of his interest (those activities which were identified in the second session) was introduced. **Thought stopping** was employed by the therapist during the session. When the patient was exhibiting hallucinatory behavior the therapist banged the bed on which the patient is sitting. This technique was followed during the following sessions whenever he exhibited such behavior. The fourth session began by reviewing the thought diary. Compliance to scheduling was reviewed and appreciated. The correlation between keeping himself occupied and the reduction of hallucinations was also highlighted. The patient was also taught to differentiate voice and feeling through **disputing**. During session five the thought diary was reviewed. Mr. C had applied the disputing technique

taught to him during the previous session and was able to reduce the hallucination during unoccupied day time but only about fifty percent. He was encouraged to participate in group games such as carom and throw ball to occupy his day further. The therapist prepared the coping cards from the thought diary. The sixth session started with review of thought diary. He had played carom with his friends in the home and reported further reduction in hallucinations which was highlighted and appreciated. He was still having few incidences of hallucinations for which gardening was suggested. **Counter stimulation** techniques like singing, listening to songs over the headphone and gargling were taught. Session seven started with reviewing the thought diary. The client had progressed well after adding gardening to his day to day activities which was greatly appreciated. Diversion (listening to songs and watching TV) and home making tasks (keeping the bed clean, arranging the shelf, etc) were taught and the efficacy of **distraction** in negating hallucinations was explained using examples from his thought diary (playing caroms and gardening). Coping cards were prepared. Session eight was started with thought diary review. The client had shown considerable improvement after he had involved in all the activities but still had some unoccupied time for which he was suggested to help out with the cleaning, arranging, drying and counting jobs in Arica nut bark plate making unit. Coping cards was prepared. During session nine the review showed that he was not experiencing any hallucination as he was going regularly for the plate making and gardening. The **coping cards** were introduced to the client and motivated to use it. Session ten thought diary review showed that he was able to continue without any hallucinations. He had tried using the coping cards which was appreciated and he was encouraged to use it regularly for better results. Session eleven was aimed at assurance for independence, as a systematic withdrawal of the therapists' guidance and support.

During session twelve the post test was administered. On continuing these regularly all 3 of the subjects reported that there is no hearing of voices by the end of programme. But after the 2 week interval on second post test the clients complained of voice hearing and did not maintain the activities which they had been advised. After re-emphasis they showed improvement in the third post test done in another 2 week interval. On the fourth post test it was noted that they did not follow any of the techniques advised, hence they were hallucinating to the same extent as that of the pre test.

The study explains that cognitive behavioral techniques are effective in reducing auditory hallucination in schizophrenic patients. However, regular intervention sessions are more necessary to enhance the sustained effect and assurance for independence. All this findings prove that there is a necessity of occupational therapy interventions through cognitive behavioral techniques among chronic schizophrenics with persistent auditory hallucination.

Limitations & Recommendations

LIMITATIONS AND RECOMMENDATIONS

The current study has certain limitations, which affect the generalizability of the results.

- The sample size taken is very small and random sampling was not done. So it is suggested that the sample size should be increased and random sampling method should be used.
- Further future studies can use samples with auditory hallucination other than chronic schizophrenia.
- Long term treatment and follow up is also recommended for better results.
- Activities of patient choice were limited as they were living in residential set up.
- Delusions which are closely associated with hallucinations were not considered in this study.
- Cognitive behavioral therapy program which combines intervention for hallucinations and delusions would be more effective.
- Cognitive behavioral therapy intervention for clients with insight of level V or VI can be studied, which could give more persistent improvement

Conclusion

CONCLUSION

The study was purposed to find out effectiveness of cognitive behavioral techniques in reducing auditory hallucinations among clients with chronic schizophrenia. The results of the study concludes that,

'Cognitive behavioral techniques were effective in reducing auditory hallucination among clients with chronic schizophrenia'.

However the conclusion cannot be generalized as the effect was short lived.

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Appendix

KMCH College of occupational therapy
PSYRATS Scale for evaluation of Auditory Hallucination

Name; Date
Age; Sex; M / F
Address;
Diagnosis;
Other therapy;
Types of auditory hallucination; elementary/thought echo/third persons/second person; commanding
Duration of auditory hallucination;
Classification; class 0/I/II/III/IV/V/VI

Frequency of appearance	
0	voices not present or present less than once a week
1	voices that occur at least once a week
2	voices that occur at least once a day
3	voices that occur at least once per hour
4	voices that continuously occur or almost continuously i.e. they stop only seconds or minutes
Duration	
0	voices not present
1	voices that last a few seconds, fleeting
2	voices that last some minutes
3	voices that last at least 1 hour
4	voices that last hours
Location	
0	voices not present
1	voices that are only heard within head
2	Voices outside of the head, but specific to hearing or to the head .They can also be heard inside the head
3	voices that are heard as with in or near the ears and outside the head, distant from ears
4	Voices that are heard only outside the head
Intensity [volume]	
0	voices not present
1	lower or more silent than our own voice, whisper
2	similar to our own voice
3	stronger than our voice
4	extremely strong ,shouting
Degree of belief on the origin of voices	
0	voices not present
1	voices generated only internally and related with oneself
2	some belief that the voices are originated by external causes
3	strong belief that the voices arise from external causes
4	the voices are only due to external causes [100% belief]
Amount of negative content of the voices	
0	non existence of negative content of the voices
1	occasional unpleasant content [<10%]
2	the minor point of the content of the voices is unpleasant or negative[<50%]
3	most of the content of the voices is unpleasant or negative[>50%]
4	all of the content of the voices is unpleasant or negative
Frequency of negative content of the voices	
0	not unpleasant or negative
1	some degree of unpleasant or negative content, but not related with oneself or family i.e. swearing or comments not aimed at oneself ; <the milk man is ugly>
2	personal insults ,comments on behavior ,i.e. <you shouldn't do or say that>
3	personal insults related with personal self evaluation i.e. you are lazy you are bad perverted
4	personal threats ; i.e. threats of harming of him / her or his / her family , orders to injury oneself or others

Frequency with which they cause anxiety	
0	the voices do not cause anxiety
1	they only cause anxiety occasionally
2	they only cause anxiety sometimes
3	they cause anxiety most of the times
4	they always cause anxiety
Intensity of anxiety	
0	the voices do not cause anxiety
1	the voices cause little anxiety
2	the voices cause a moderate degree of anxiety
3	the voices cause much anxiety, although the subject can remain calm
4	the voices cause extreme anxiety, the subject feeling very bad
Repercussion on daily life caused by the voices	
0	there is no repercussion, the subject can maintain social and family relationships
1	the voices cause minimum repercussion in the subjects life ;i.e. inference in concentration although he is capable of maintaining daily activity; have family and social relationships and be capable of maintaining independence without support
2	The voices cause moderate repercussion, causing some alteration in the daily activity and in the family or social activities. The patient is not hospitalized also he live in psychiatric half way houses or receive additional held in the development of daily skills
3	The voices cause severe repercussion, so that hospitalization is necessary. The patient is capable of maintaining some daily activities, taking care of him or herself and relating in the hospital. They could also be in halfway houses, but experience important disorders in terms of activities, development of skills and/or relationships.
4	The voices cause complete alteration in the daily life, requiring hospitalization .the patient is incapable of maintaining any daily activity or of having relationships. Self care are also severely altered
Control on the voices	
0	the patients believe that they can control the voices ,attracting and dissipating them[rejecting them]
1	the subject believes that he/she can have some control over voices in the most of the times
2	control of the voices half of the time approximately
3	the subject believes that he/she has control over the voices, but only occasionally, the most of time the subject experiences voices that cannot be controlled
4	the subject has no control over the voices and cannot reject or attract them

Total Score:

Therapist's Signature

Interest checklist

Activity	What has been your level of interest						Do you currently participate in this activity		Would you like to pursue this in the future	
	In the past ten years			In the past year						
	Strong	Some	No	Strong	Some	No	Yes	No	Yes	No
Gardening / yard work										
Sewing / needle work										
Playing cards										
Church activities										
Radio										
Walking										
Car repair										
Writing										
Dancing										
Football										
Listening to popular music										
Puzzles										
Holiday activity										
Pets / livestock										
Movies										
Listening to classical music										
Speeches / lectures										
Swimming										
Bowling										
Visiting										
Checkers / chess										
Reading										
Travelling										
Parties										
House cleaning										
Model building										
Television										
Pottery										
Laundry / ironing										
Politics										
Table games										
Home decorating										
Clubs / lodge										
Singing										
Clothes										
Handicrafts										
Hair styling										
Cycling										
Attending plays										
Bird watching										
Home repairs										
Exercise										
Hunting										
Wood working										
Driving										
Child care										
Tennis										
Cooking / baking										
Basket ball										
History										
Fishing										
Science										
Leather work										

Shopping										
Photography										
Painting / drawing										
Playing computer games										
Playing musical instrument										
Looking after a pet										
Collecting things [like coins, stamps]										
Jogging										
Travelling										
Photography										
Exercise										
Yoga										
Jewellery making										
Making gift baskets										
Writing										
Designing										
Home decorating										
Learning foreign languages										
Creating a wall art and wall hanging										
Candle making										
Shopping										
Drawing										
Coloring										
Balloon blowing										
Food decorating										
Fishing										
Walk with dog										
Doing puzzles										
Attending sports events										
Belonging to club										
Making a cup of tea										
Going to temple										
Going to shops										
Arranging shelves										
Folding bed sheets										
Washing utensils										
Make a phone call to familymembers										
Reading cooking books										
Reading colam books										
Practicing colam on floor										
Practicing colam on note book										
Writing sri rama jeyam or other										
Preparing the items for next cooking										
Spending time with children’s										
Helping in cooking										
Talking with neighborhoods										
Taking tuition										
Teaching child’s subjects										
Home budget planning										
Body painting										
Stars watching										
Child care										
TV video games										
Videogames										
Telling jokes										

SESSIONS

Session 1

Aim: Pre assessment and introduction of therapy procedures.

Session 2

Aim: Explore skills they posses and taught thought diary

Session 3

Aim: Prepare activity schedule

Session 4

Aim: Differentiate the voices and feelings

Session 5

Aim: Prepare coping cards from thought diary highlight controlling capacity

Session 6

Aim: Introducing counter stimulation technique with previous techniques

Session 7

Aim: Introducing distraction and home making activities with previous techniques

Session 8

Aim: Introducing distraction and home making activities with previous techniques

Session 9

Aim: prepare and use coping cards and highlight controlling capacity

Session 10

Aim: prepare and use coping cards and highlight controlling capacity

Session 11

Aim: assurance for independence

Session 12

Aim: post assessment

Case No.		Control group		Experimental Group				
		Pre-test	post-test	Pre-test	post-test-1	post-test-2	post-test-3	post-test-4
1	1	4	1	2	0	3	1	2
	2	4	2	2	0	2	1	2
	3	4	4	4	0	4	4	4
	4	1	2	2	0	3	2	2
	5	4	2	3	0	4	3	3
	6	3	1	2	0	0	0	1
	7	2	1	3	0	0	0	3
	8	1	2	2	0	1	1	2
	9	2	1	3	0	1	1	2
	10	1	1	1	0	1	0	1
	11	2	2	4	0	1	1	3
	Total	**28**	**19**	**28**	**0**	**20**	**14**	**25**
2	1	4	2	4	0	3	1	4
	2	4	3	3	0	4	1	3
	3	4	4	4	0	1	1	4
	4	1	1	3	0	3	2	2
	5	4	4	4	0	2	2	3
	6	1	1	3	0	3	1	3
	7	2	1	3	0	3	3	3
	8	2	1	3	0	1	0	2
	9	2	1	4	0	2	0	1
	10	1	1	1	0	1	1	1
	11	3	3	4	0	4	2	3
	Total	**28**	**22**	**36**	**0**	**27**	**14**	**29**
3	1	2	1	3	0	3	1	4
	2	2	2	2	0	3	1	4
	3	4	4	4	0	1	1	4
	4	1	1	3	0	3	2	1
	5	4	4	4	0	1	1	4
	6	2	2	3	0	2	1	2
	7	3	1	2	0	3	1	3
	8	2	1	1	0	2	1	2
	9	1	1	3	0	1	1	2
	10	1	1	1	0	1	1	1
	11	2	3	4	0	4	2	4
	Total	**24**	**21**	**30**	**0**	**24**	**13**	**31**